

Johnson (Jos. J.)

ON SOME OF THE APPARENT PECULIARITIES OF PARTURITION IN THE NEGRO RACE, WITH REMARKS
ON RACE PELVES IN GENERAL.

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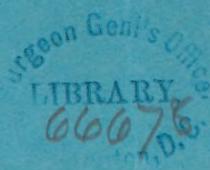
JOSEPH TABER JOHNSON, A.M., M.D.,

Lecturer on Obstetrics in the Medical Department of Georgetown College, Washington, D.C.;
late Obstetric Physician to the Freedmen's Hospital; one of the Physicians
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*Presented by
the Author*

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ON SOME OF THE APPARENT PECULIARITIES OF PARTURITION
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By JOSEPH TABER JOHNSON, A.M., M.D.,

Lecturer on Obstetrics in the Medical Department of Georgetown College, Washington, D.C.;
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HAVING attended several hundred negro women in their confinements, and meeting with surprisingly few preternatural or instrumental cases among them, I have been interested in making some further investigations upon this subject, and have collected the histories of two thousand negro labors for that purpose. I propose in this paper to institute a comparison between the proportion of "puerperal accidents," cases requiring instrumental interference, length of convalescing stage, with the obstetric average of corresponding cases in white women, as given in our text-books upon midwifery; and to briefly discuss the causes of the immunity of negro women from these puerperal complications, particularly the anatomical formation of the negro female pelvis, the diameters of the negro foetal head, and the habits of life of those women whose histories are given below.

I had collected for comparison two thousand-one hundred labors in negro women; but as the average in medical literature is given as so many in one thousand I shall calculate upon two thousand only as my basis.

Five hundred of the cases referred to have occurred in my own practice, and I am indebted to Drs. C. B. Purvis and A. T. Augusta, two busy colored physicians, for the histories of about eight hundred more, while the remainder, or seven hundred cases, occurred in the practice of colored midwives, or "grannies" as they are called, mostly among the former slaves of the South. Where there exists so large a colored population as in our city—and it reaches at the present time to upwards of 40,000—and where that population, as in our case, is mostly very poor, physicians are not called in to attend upon confinements unless emergencies arise requiring greater skill

than is possessed by the ordinary colored midwife. These women have no anatomical or physiological knowledge of the "mechanism of natural labor," or the science of obstetrics, but they have accumulated a vast deal of experience from the hundreds of cases which are unreservedly entrusted to their care.

The statistics of Churchill, so universally adopted by obstetrical writers, will be used as the standard of comparisons among white women, in this article.

Length of Labor.—Twenty-five of these two thousand labors lasted beyond twenty-four hours. How much longer some of them may have continued I have no reliable facts to show. None of my own five hundred cases lasted a greater time than above stated, and I have no accounts of a single death from prolonged labor. Especial inquiry was made upon this point among the "grannies." It is very difficult to bring them to exact facts. They make a distinction between labor and "hard labor." Negro women have frequently told me that their labor began three or even four days ago, but that "hard labor" had only lasted an hour or two. This I do not understand as an indication that the os uteri had been three or four days in dilating before expulsive pains came on, but simply that they considered their "time up," and the occasional pains in the back and uterus which they experienced, were set down as the beginning of their labor. I have been called to attend a number of women who were said to be in "hard labor," and have gone at once with the messenger and found the child kicking and crying in the bed upon my arrival. This also occurs with white women, but so far as my experience and reading goes, not so frequently. The average length of labor in these women, so far as it has been possible to calculate it, was about three hours. Meigs, in his "Treatise on Obstetrics," p. 292, says: "The average duration of labor has been stated at four hours; I should think it greater. There are many examples of women in labor who are completely delivered in ten minutes from the first perception of the signs of parturition. Very numerous cases occur in which labor is protracted during twenty-four hours, while some of the patients are occupied three, four, and even five days, with continuous efforts to bring the child into the world. I have witnessed one labor of nine days' duration, and

many from three to five days." It is altogether probable that Meigs' experience was confined almost exclusively to white women, and to the better classes of society. I should say that the average among white women in my practice had been at least six hours.

The remark of Dr. Livingston in regard to the natives of South Africa considering parturition to be an act of nature and not of disease, applies almost as forcibly to the negro women of the United States. There is a noticeable difference, however, in the manner and bearing of our dashing mulattoes and quadroons.

The multiparous negress will, as a rule, cheerfully bend all her energies toward the accomplishment of the end, which she knows full well has to be accomplished, and, believing it to be a natural process which will do her no harm, hastens through it as rapidly as her powers will allow.

With the mulattoes this is not so much the case. They appear to have less courage or endurance than the pure negroes, and so far as my experience goes, this lack is a notable feature in most of their diseases.

Presentations, etc.—The average of *breech presentations* stated by Leishman is "about 1 in every 45 mature births," Churchill says about one in every $59\frac{3}{4}$; Collins about one in every 68; Meadows one in every $72\frac{1}{2}$ cases.

It has been impossible to get reliable details from the colored "grannies" in regard to the variety of presentations, *i.e.*, whether they were feet, knees, or breech. I find, however, what appear to have been breech presentations occurring 4 times in the practice of these "grannies." I have met with 2 cases, and have reports of 4 more. In all 10 cases, making this presentation occur in these 2,000 labors once in every 200 cases.

There are no accounts of *shoulder or face presentations*. One of my cases occurred in the Freedmen's Hospital, and presented one foot, one hand, and the funis, with the head so crowded down by a powerfully acting uterus as to render version very difficult. The child in this case was still-born. The facts in my possession do not enable me to give positive statements that the above ratio is correct, but I feel abundantly warranted in the belief, that the head presents with greater uniformity among the negro women of the United States than

among white women as recorded in our text-books upon midwifery.

Churchill, from an analysis of 466,424 labors, found that twins occurred once in every eighty-three cases.

In my analysis of 2,000 labors in negro women, I find that twins were delivered once in every four hundred cases.

Triplets occurred in my wards at the Freedmen's Hospital, once.

The *Period of Convalescence* in negro women is proverbially short and uncomplicated. My own experience and the statements of physicians and colored midwives who have had abundant opportunities for gaining information upon this point, confirm this proverb, the letters of occasional medical or historical writers travelling in negro countries to the contrary notwithstanding.

It has been impossible to confine patients to their beds for "nine days." They have frequently been dressed and about their rooms on the third and fourth days after confinement. They had pursued this course in previous labors, and had suffered no harm, and thought they gained strength faster than when lying in bed; and it is rare that I am called upon to treat any disease which originated during the puerperal month. *Prolapsus uteri* I have found to be rather common in negro women, but have been in the habit of attributing it to their modes of life, especially to the lifting and carrying heavy burdens, many of them upon their heads and during menstruation. How far the neglect of proper management after confinement may be causative of uterine displacements, I cannot say. From a knowledge, however, of the time required for the completion of the process of sub-involution, it would seem that this must be its chief cause; but so far as my knowledge and experience go, this has not seemed to be the case.

These women invariably nurse their children from healthy and bountiful breasts. They are unwilling frequently to wean them at the end of nine months or a year. I have seen several negro women nursing children over two years of age, and some over three.

Puerperal Accidents.—I am unable to give the average of stillbirths and abortions among whites or blacks. From the published investigations of Dr. H. R. Storer and others upon

abortion, and its criminal increase in America, it is, however, certain that the negro women of the South are far behind their sex among the more accomplished whites in this regard. The most convincing proof of the truth of this statement is in their greater number of children. The loose notions heretofore entertained by the colored people in regard to the sanctity of marriage, has made it little or no disgrace in their eyes for a child to be born out of wedlock. Thus they have not had this powerful incentive for covering their shame, by bringing about abortion. As they have not heretofore been compelled to support their own children, large families were not so burdensome as they prove now to be.

Among the two thousand labors included in this report there were only seven *stillbirths*. I am convinced, however, that abortion during the second and third months of uterogestation is increasing in frequency among the negroes. My impression is, that this practice prevails to a greater extent among the mulattoes than among their blacker sisters, though I have no facts with which to sustain such a statement. Perhaps an increased sense of the responsibilities attaching to the birth of children, and a greater regard for the good opinion of the community, actuates "unfortunate" colored girls to commit this crime, as well as the married women who have either been unfaithful to their husbands, or who are unwilling to care for more offspring.

The *umbilical cord* was found to be once around the neck of the infant at birth three hundred and eleven times, twice around two times, and twice around the body two times, thus making this anomaly occur once in every six cases. Obstetric authors direct that upon the birth of the foetal head the *acoucheur* should satisfy himself as to whether the *funis* encircles the neck of the child or not. I presume few practitioners of midwifery neglect this wise precaution, and occasionally they find need for their skill in its removal; but it is so frequently the case among negro women that I always expect to find it, and never fail to search for it.

Churchill estimates that *rupture of the uterus* occurs once in every 1318 cases.

In the 2,000 cases collected by me it occurred but once. In this case the woman recovered, and subsequently became preg-

nant, and would probably have gone on to full time had she not taken "some powders" which produced an abortion at the sixth month.

Puerperal convulsions occur, according to Leishman, once in every 350 cases.

In my 2,000 negro labors they occurred 8 times, or once in every 250 cases. This ratio among negroes seems above the average, not only of the whites, but much above their own average. In conversing with physicians upon this point it has, without exception, struck them as large. Dr. Triplett, now of Washington, who has practised until recently in Virginia, tells me that he "never saw or heard of a case of genuine puerperal convulsions in a negro woman." He says, further, that his father and grandfather both practised medicine all their lives in the same State, and had never seen a *single* case. The doctor had "been struck by this fact," and his memory was "clear upon this point."

It is certain that albuminuria existed in two instances, occurring in my own practice, and it was the united opinion of Drs. Smith, Prentiss and myself, that uremic poisoning was the cause of a third, the case already referred to, where forceps and craniotomy failed, and version was finally necessary to deliver the child. Coma was persistent from the seizure until death, a period of eighteen hours. No urine could be drawn for examination; the face, however, was swollen and puffy, and the limbs and feet excessively oedematous.

Meadows¹ gives three varieties, viz., the hysterical, the apoplectic, and the genuine puerperal. The first variety I have never seen in a negro woman. Hysteria, in any of its numerous guises, is rarely met with among them, and the neuroses are extremely uncommon, with the exception of neuralgia of the womb and ovaries, which I have frequently seen.

Of the hysterical variety of puerperal convulsions Meadows remarks as follows: "Most of the patients in whom these convulsions occur have the nervous hysterical peculiarities very strongly marked. They are generally young, often highly intellectual and refined, and at this time are very nervous and anxious about their condition." The strong-nerved ignorant

¹ Manual of Midwifery, p. 396.

negro women of America are little subject to this form of eclampsia.

The case of coma and death above referred to is a good example of the apoplectic variety.

Possibly a cause for this immunity of negro women from this complication is their failure to receive impressions upon their nervous system which would seriously affect a more delicate organization. They do not suffer from "nervousness," one of the fashionable ailments of the present day.

Eclampsia has been noticed to occur more frequently among unmarried primiparæ, whose shame and distress at their "unfortunate" condition, it was thought, had much to do with its causation.

Meadows quotes from Churchill to show that *placenta prævia* occurs about once in 480 or 500 cases.

In my 2,000 cases it occurred but *once*. In this instance the child was expelled immediately after the delivery of the placenta. No subsequent hemorrhage took place, and both mother and child did well.

There were two cases of severe *flooding during labor*. Both occurred in the practice of the "grannies." Ergot had been administered largely, and pressure upon the abdomen resorted to. In one of these cases, there being some delay, the child was born dead; and in the other, the perineum was ruptured down to the sphincter ani. The mothers both recovered. Had either of these cases occurred in the practice of any reputable accoucheur, it is probable that podalic version would have been performed, and the lamentable results of this unadvised and inappropriate use of ergot been prevented.

Churchill reckons *post-partum hemorrhage* as occurring once in 122 cases.

Among the 2,000 cases collected by me this "accident" occurred 4 times, or once in 500 labors.

In one of these four cases the placenta was adherent, but after its detachment and removal the uterus contracted favorably, and the woman did well.

No fatal cases occurred. They were all controlled by cold and pressure variously applied. The "grannies" seem to understand the value of cold water, ice, pressure, the removal

of clots, and ergot, but, as a rule, they anticipate no trouble, and take no precautions.

I rarely attend a labor without having near at hand ice and ergot, ready for instant use; and it has become almost a rule of practice to administer a teaspoonful of the fluid extract of ergot as soon as the foetal head has been delivered, partly as a prophylactic against hemorrhage, and partly to hasten the expulsion of the after-birth, and secure permanent contraction of the uteruses. After-pains are less annoying in cases where ergot is given, and Crede's method of squeezing the uterus adopted. A firmer and more compact consolidation of the uterus is produced than when both or either, of these aids or precautions have been neglected.

Some of these "grannies" in the South gather and prepare their own ergot powder, and the cotton root they make into a "tea," which they use not only to check flooding, but to bring on abortion.

In the 500 colored labors which I have witnessed, the placenta has been quickly expelled, by strong expulsive pains, in a very short time after the birth of the child. This interval has been shorter in negroes than in white women.

The chief danger to a patient, white or black, of flooding occurs in the few moments intervening between the birth of the child and that of the secundines. The danger, so far as my experience goes, is proportionate to the amount of exhaustion and general relaxation, including the uterus, of course, immediately succeeding the last agonizing pains which accompany the passage of the head through the vulva. That nervous system the best able to endure these pains, and which reacts the most speedily, is least exposed. Many of our strong, robust white women, and the apparently delicate ones also, endure these physiological processes nobly and react quickly. There being so few "delicate ones" among the negro women, statistics show that, proportionately, few are affected by post-partum hemorrhage.

Puerperal fever occurred four times in my two thousand cases, or once in 500 labors.

It is difficult, if not impossible, to arrive at any average in this disease. No author, so far as I am aware, states any. It is so dependent upon special and epidemic influences, that cal-

culations perfected upon the study of any number of cases for a given time, would be of no value whatever in calculating for the future, even in the same locality.

It would seem, upon general principles, that this disease would be generated by these ignorant, untidy people living, as most of them do, crowded together in little cabins or badly ventilated buildings, in alleys and back streets, poorly clothed, with cheap, frequently unhealthy food, but this does not prove to be the case.

I have frequently been sickened by the odors which came from the beds and was produced in the rooms of negro patients, confined frequently in the common room used for all family purposes—smoky, hot, with all the combined smells arising from cooking, eating, sleeping, and living, and this one room sometimes neglected since the illness of the mother of the family. I have never seen a single case of puerperal fever in a negro woman in private practice. They seem able to resist the effects of bad air, odious smells, and decaying discharges.

At the Freedmen's Hospital we were compelled to employ colored nurses. One of the greatest difficulties which we had to contend with was, getting them to observe the rules upon cleanliness and ventilation. They never *did* understand the *necessity* for this observance. Having lived in the constant neglect of all such laws, they could not be brought to appreciate their importance. Their confinement cases, under unfavorable circumstances even, had invariably done well when none of these strict laws were enforced. Puerperal fever, in a mild form, broke out in the Freedmen's Hospital during my connection with it. It was thought by the hospital staff that the first case occurred in a woman whose labor came off in the night, and was attended by a resident student who had been assisting at an autopsy during the day. Three women only contracted this disease, and none of them died. The lying-in wards were closed to new patients for a time, and extra care was used in disinfecting the building. The disease did not spread beyond the three cases above referred to.

Operations.—After an analysis of 985,446 labors collected from British, French, and German sources, Churchill states that the *forceps operation* was performed once in every 115 cases.

In the 2,000 labors among negro women collected by me, the

forceps were required but 4 times, or once in every 500 cases. The suggestion naturally arises, and it has been made to me by physicians, that while these labors may have been finally terminated without their aid, yet would not the condition of the mothers have been improved by a more frequent resort to these instruments?

I find no evidence that this would have been the case among those labors collected from the midwives, or in any of the others. No deaths from this cause, or instances of vaginitis, pelvic cellulitis, vesico- or recto-vaginal fistulæ appear to have followed labor in any of these two thousand cases.

The rules upon which so much emphasis was formerly laid, requiring that the left ear should be distinctly felt by the accoucheur, or that the foetal head should remain stationary for six, or even four hours, pressing upon the maternal soft parts before the operation was justifiable, have, with the advance of obstetrical science, been disregarded.

The practice of Barnes and his school is, instead, governing the obstetricians to-day, viz., that as one woman may suffer as much in one hour from the effects of pressure of the foetal head upon her soft parts as another may in six, the circumstances of each case are to govern the medical attendant in his action, no arbitrary rule as to time being of any value.

Barnes says, "While we are waiting, the woman is suffering—suffering needlessly; her nervous energy is being used up; she is drifting into exhaustion." ("Lectures on Obstetric Operations," page 53.)

Take for example the case of a lady whose already nervous delicate organism has been greatly taxed and overburdened by the demands of fashionable society, anterior to and during gestation. Her pains are feeble and slow, and her strength is beginning to waver. Who will not say that in a case like this the "getting up" of our patient will not only be hastened but assisted, if we, by the use of forceps, save her several hours of suffering and exhausting, but finally successful, pains? This same patient, if in vigorous health, would not have required their aid.

The increasing frequency of this operation is not so much owing to the greater skill of the accoucheur, as in his ability to recognize the indications which imperatively demand such assist-

ance as the forceps alone can render. The ignorant negro women, unaffected by the enervating influences of fashionable society, the slavery of stylish dress, and their attendant evils, do not require this operation any more frequently than they did one hundred years ago.

Labor seems to progress in these women naturally, and few of them regard themselves as sick, as we understand that word, when they are confined. Their previous modes of life having been healthful and natural, they have the requisite strength and endurance when their time of need comes. The labor, it seems to me, is normal, the period of convalescence short and uncomplicated, as a consequence of, or in proportion to, their previous simple and vigorous habits of living.

In addition to their universal healthful readiness for parturition, the low development of the anterior cerebral lobes and consequent shortening of the fronto-mental and occipito-frontal diameters of the foetal head diminishes the suffering of the patient. The diameters being shorter the resistance is less, and the greater occipital development is accommodated by the peculiar shape of the negro pelvis.

Tyler Smith, in his "Lectures upon Obstetrics," p. 317, makes the broad assertion that "all ethnological researches tend to show that with the advance of civilization the human head has increased in size."

He goes on to say in his argument that the size of the foetal head is greatly influenced by education and civilization, that the heads of Egyptian and Peruvian mummies are considerably below the size of the European cranium.

"Nothing within the range of human anatomy stands in a stronger contrast than the cerebral size and development of the New Hollander or Bushman and the Caucasian races. The different condition of education amongst different classes of the same race also has its effect upon the size of the brain and cranium. Hatters state that the size of the head is greater in the same classes in towns than in agricultural districts, in the educated than in the uneducated."

Sir James Simpson's memoir upon "Sex of the Child as a Cause of Difficulty and Danger in Human Parturition" states that, in cases of tedious labor, puerperal convulsions, puerperal fever, ruptured uterus, hemorrhage, and instrumental delivery,

by far the greater number of children are males. In cases of pelvic abscess, ruptured perineum and vesico-vaginal fistula, the same undesirable pre-eminence attaches to male children.

His argument is elaborate and exhaustive. I give below some of his principal conclusions, which have of late been acknowledged and proven correct by many obstetrical writers.

1st. Of the mothers who die under parturition and its immediate consequences, a much greater proportion have given birth to male than to female children.

2d. Of stillborn children a larger proportion are male than female.

3d. Of children born alive, more males than females suffer from the morbid states and injuries which result from parturition.

4th. More males than females die in the early period of infancy, and the disproportion diminishes from birth to some time afterwards.

5th. Of children who die *in utero* before labor, as many are males as females.

6th. Of accidents which happen after the birth of the child, as many occur with female as with male children.

If the slight difference—half an inch in the circumference of the cranium—existing between the size of the male and female head at birth, is capable of producing all the disastrous and fatal consequences above detailed in intelligent Caucasians, it is not at all difficult to believe, that in the ignorant negroes of the United States, the cranial development is enough less, in its frontal region especially, to account in a considerable degree for their immunity from the average ratio of puerperal accidents, and tedious and fatal complications.

"It seems a clear inference," says Tyler Smith, "that the brain and head of the uncivilized and uneducated must be on the average smaller than those of the civilized and educated, and we have seen in the comparison of the male and female head at the time of birth how small a difference in the size of the fetal head is sufficient to increase the dangers, and necessarily the sufferings, of parturition."

Dr. Simpson is of the opinion that the comparative difficulty of parturition with male and female children extends to the fœtus of civilized races, and he refers the increased sufferings

of the civilized women in childbirth to the size of the foetal head.

Dr. Livingston says of the negro women in South Africa : "They generally suffer less than Europeans, principally, as it appears, because they consider parturition to be an act of nature, and less of disease, than do the latter."

Tyler Smith continues : "The general bearing of all the knowledge we possess on this subject supports the view that barbarian women suffer far less than women in a state of civilization. The size of the foetal head must be considered the most important element in this matter, though, at the same time, there is the greatest sensibility induced by the habits and social condition of the civilized and highly cultivated female to be taken into account. Civilization not only influences the size, but the relative size of different parts of the foetal head. In uncivilized races the tendency is to increase the occipito-mental diameter, by the protuberance of the occiput and the greater development of the lower part of the face, and to diminish the occipito-frontal diameter by the flattening of the frontal bone and the low development of the anterior cerebral lobes. The diminution of this diameter must lessen the difficulty in the passage of the foetal head. In the case of a negress whose labor I had the opportunity of witnessing, the great mass of the foetal brain was behind the auditory foramen."

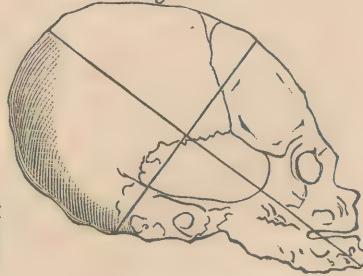
Fig.1.



Skull of White Fœtus.

(TYLER SMITH.)

Fig.2.



Skull of Negro Fœtus.

Notwithstanding the evident exaggeration of these two plates they are good types of the cranial development, the one of ignorance and partial barbarism, and the other of an enlightened Christian civilization.

Meadows quotes Churchill's statistics upon *version* as follows, viz.: "From an examination of nearly a million cases collected from British, French, and German reports, the necessity for this operation arises once in every 123½ cases."

In the 2,000 cases of labor among negro women collected by me, this operation was performed three times, or once in every 666½ cases. Once in the Freedmen's Hospital, where the left hand, right foot, and funis presented, with the head crowding down upon them; once when rupture of the uterus occurred, and the child had to be drawn back into the uterus from the abdominal cavity previous to version, and once in a consultation case, where forceps and craniotomy both failed, and the child had to be turned finally and brought down by the feet.

As nearly as could be determined without measurement there was a contraction of the pelvis antero-posteriorly in the last case. Drs. T. C. Smith and D. W. Prentiss, who were associated with me, are confident that such was the fact.

It may be of interest to remark here, that this is the only instance of deformity of the pelvis which I have met with in my investigations among negro women. With all the privations and hardships which the colored people have had to suffer, deformity of the pelvis seems to be little known among them.

At a meeting of the Philadelphia Obstetrical Society for May, 1874, Dr. W. H. Parrish read the history of a case of craniotomy which he had recently performed upon a rachitic negress—death resulting during the fifth week from pyæmic puerperal fever. The following extracts are taken from the November number of this JOURNAL, p. 494:

"During the night of March 18th, 1874, I was called to a colored woman, aged 28, then in labor, on whom it was stated craniotomy was required.

"The woman was at full term, had been in labor at least thirty-six or forty hours, was restless, with a feeble pulse of 120 per minute, and with evident exhaustion. The external genitals were hot and extremely sensitive. The abdomen protruded markedly forward, and the uterus was deflected to the left. Her stupidity was such that no satisfactory history of herself could be given, she stating that on two previous occasions two children had been taken from her, and that in neither was the head crushed.

"The patient was etherized and craniotomy performed, and a male child, which in its entirety would have weighed eight pounds most probably, was delivered.

"The woman was now aroused and morphia and whiskey administered. She soon rallied, the pulse falling to 110. She then confessed to having undergone a similar experience on two previous occasions at the Philadelphia Hospital, and we then recognized her as Josephine Scott. (See AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, February, 1873, p. 646.)

"As the subsequent treatment we directed the daily administration of quin. sulph. gr. xij., and morph. sulph. gr. ss., with nutritious and easily digested diet, and the careful use of stimulants. It was easy to give directions, but with none around her willing or fitted to perform the duties of nurse, it was impossible to have her merest wants attended to. She repeatedly passed her urine in bed, because no one would hand her the needed vessel, and on the second night she partook of a hearty meal of fat pork.

"The autopsy was made thirty-six hours after death. 'The pelvis is distinctly kidney-shaped at its brim. The sacral promontory jutting forward so as to be the essential cause of the deformity. The outlet is not greatly diminished, nor is it ordinarily so in a rachitic pelvis.'

"The measurements of a dried *ligamentous* preparation of the pelvis are :

Superior Strait.	Inferior Strait.
Antero-posterior diameter...1 $\frac{1}{2}$ inches.	Antero-posterior diameter...3 inches.
Transverse diameter.....4 $\frac{5}{8}$ "	Transverse diameter.....3 $\frac{5}{8}$ "
Oblique left posterior.....3 $\frac{1}{4}$ "	Oblique left posterior.....3 $\frac{1}{4}$ "
Oblique right posterior....4 "	Oblique right posterior.....3 $\frac{1}{4}$ "
Left oblique conjugate....2 "	
Right oblique conjugate....2 "	

"The difference in the oblique diameter of both the brim and the outlet is due to the right sacro-iliac synchondrosis being on a plane posterior to that of the left.

Depth of the symphysis pubis with triangular ligament.....1 $\frac{3}{4}$ inches.
Depth of pubic arch.....2 "

Shortest distance from tip of coccyx to promontory
of sacrum..... $3\frac{1}{2}$ inches.

Following curve of sacrum..... $4\frac{3}{8}$ "

"On two previous occasions craniotomy was performed on her, by Dr. Gervis in 1869, and by Dr. Parry in 1872; each time at the Philadelphia Hospital. Dr. Parry reported his case in the *Transactions* of this Society of last year, making it the basis of his excellent article entitled 'Craniotomy and the Cæsarean Section in small Pelves.' (See this JOURNAL, February, 1873, p. 644.)

"The pelvis and attached bones are now in the museum of the Obstetrical Society of Philadelphia."

There are other complications which it would be interesting to compare with the ascertained average among Europeans; and in a future paper I hope to follow up this subject, and to point out some of the peculiarities, if there are any, of the hybrids of the negro race, especially in this country, in regard to the process of parturition.

In order to do justice to facts as they are seen by accoucheurs of the present day, I wish to add a word in regard to the statistics of Churchill, which have been so largely quoted. They were collected almost before the present revolution, if I may use so strong a word, began in obstetric operations, especially in regard to the use of the forceps.

Such is the testimony of our later obstetrical authors and writers in regard to the forceps operation and its increased frequency in this country and Europe, that it would be safe to say it is now performed three, and possibly four times, where it was once fifty years ago. This increased frequency is mostly among our refined classes of society, who have added to their higher cerebral development the nervous diathesis, so to speak, and whose vitality is so much absorbed in the social duties of their stations.

On the other hand, these statistics of negro labors have been collected within the past four years—except those occurring upon Southern plantations under the care of the "grannies,"—and it is altogether probable that the demand for the performance of this operation is no greater among them to-day than it was one hundred years ago.

In connection with this subject I would draw attention to the

last annual report of George Johnston, M.D., F.K. and Q.C.P., Master of the Dublin Lying-in-Hospital, published in the *Obstetrical Journal of Great Britain and Ireland*, for March, 1875, p. 798.

In his "Annual Account of the State of the Hospital," the doctor states that during the "year ending Nov. 5th, 1874, there were 1236 deliveries" and only "15 deaths from all causes." "In 138 cases we deemed it advisable to employ the forceps. . . Version was performed in 14 instances." It will be seen that this operation was performed about once in every 10 cases, and what is more remarkable, in a very large proportion of the cases before the os was dilated. The discussion upon this subject in the Dublin Obstetrical Society at its meeting in January last, will be found to be of great interest, giving the views of Atthill Kidd, McClintock, and Johnston upon this subject, while none of the speakers condemn its frequent use in the face of such success—only seven deaths from puerperal causes during the entire year—they all recommend caution for unskilful operators.

I have already referred to the size and shape of the negro head, and have applied the remarks of Tyler Smith in regard to the effects of education and advanced civilization upon the development of the cerebral lobes of the brain, etc., to the ignorant negro women dealt with in this article. I have inclined largely toward the belief that the heretofore universal state of ignorance in which negro children have been born, has had much to do in giving to their crania the peculiar dimensions which are classed by ethnologists and writers upon anthropology as race characteristics. This shape of the negro skull, it must be admitted, is favorable to easy and rapid parturition, and these ignorant negro women have probably been saved many of the severer complications which statistics and our experience show have followed in the wake of education, culture, and refinement in the white race.

The peculiarities of the negro pelvis, which writers have claimed to exist, producing an exact conformity between the shape of the skull of this and other races and their pelvic canals, would to some extent lessen the force of the foregoing proposition. Whether these peculiarities are as prominently marked as

claimed, in the pelvis of the negress, it will be the province of the remainder of this article to discuss.

The study of craniology suggests that the pelvis through which the various crania pass, would be as distinctly characteristic of race as the skulls are themselves; that crania with short antero-posterior and fronto-mental diameters, with great development of the occipital region and of the lower part of the face, must, to pass easily and normally, be accommodated by harmonious race characteristics in the pelvis.

Dr. J. Aitkin Meigs, in his chapter upon "The Cranial Characteristics of the Races of Men," being chapter iii. of Nott and Gliddon's "Indigenous Races of the Earth," refers to the fact of a conformity between the cranial and pelvic types of a particular race, and says that "Vrolik, following up the suggestions of Camper and some other observers relative to certain peculiarities of the negro pelvis, has demonstrated the existence of race form for the pelvis as for the cranium. He has shown that the form of the head is adapted to the pelvic passage which it is compelled to traverse in the parturient act, and that the pelvis, like the skull, possesses its race characters and sexual distinctions sufficiently well marked even at the infantile epoch."

Meigs refers to the denial of Webber of the value of these observations, and accounts for the fact of his finding exceptions to this law in "encountering occasionally the European pelvic conformation among other and very different races, by the mixture of the blood of these races with that of Europeans."

Dr. O. Von Franque has written a very learned article upon "The Female Pelvis of Different Races," which is published in Scanzoni's *Beiträge zur Geburtshilfe und Gynäkologie*, 1869, vol. vi., p. 163. To this most comprehensive paper I am indebted for many suggestions, and have taken advantage of his investigations to present below several of his points, conclusions, and quotations in regard to the negro pelvis.

Von Franque states that, since Camper pointed out the difference of the skulls of different races and nations, a number of the best known naturalists have occupied themselves most searchingly with this question of race-crania. So much has this been the case, that the discussions upon this subject alone form quite a respectable library. The pelvis, on the contrary, espe-

cially of the female, has received very step-motherly attention, only few investigators having made the female pelvis of various nations and races the subject of their observation. We possess but very few useful descriptions and measurements of such non-European pelvises. The most important reason for this lies particularly in the fact that it is more difficult to obtain pelvises and entire skeletons than skulls. Von Franque states that a further reason of the absence of such pelvises, amid entire collections of pelvises, may perhaps be found in the fact, that such a subordinate significance was always ascribed to the pelvis, that it was hardly thought worth while to deal with this unimportant portion of the human skeleton.

The material is as yet very small; only of the pelvises of Malays and negresses has a large number been described exactly.

Von Franque gives descriptions and measurements of the pelvis of the Flat-head Indian of Vancouver's Island, the Malay woman, the Chinese woman, the Negress, the Papua Negress, and the Negress (?) from America. Added to these he gives the pelvis of a female Gorilla.

It has been the opinion of many men, myself included, that the negress gave birth to her children more easily than the white female, on account of her having a larger and more roomy pelvis. But my attention has been drawn frequently to the graceful carriage of well-dressed negro and mulatto women in the streets, and their walk compared with that of white ladies, suggesting that they possess more narrow loins and hips than white women, who, to use the expression of Meigs, "waddle when they walk."

Von Franque tells us that the first to write on the pelvises of non-European races was Soemmering: "Physical Differences of the Negro and the European," 1785. "Loins and hips of the negro race narrow, entire pelvis more narrow." In regard to the female negro pelvis, he quotes Camper regarding the angle formed by the descending rami of the ischium; this amounted, in a woman from Celebes, to 90°.

The first real measurements of pelvises of non-European nations seem to have been made by Rollin ("Mémoire Physiologique et Pathologique sur les Americains) being part of the work, "Voyage de La Pérouse autour du Monde," 1797, tome iv. He speaks of the "easy labors of the women in the vicinity of

La Baie des Français, N. W. America, and of the wide pelves of these women, and states that difficult labors are very rare." E. V. Siebold ("Diseases of Women," 1821, p. 15) states that "all the diameters of the negress at puberty are reversed, that the conjugate diameter of the inlet represents the large and the transverse the smaller space."

Vrolik treats this subject more elaborately in "Observations upon the Differences of Pelvises of Various Races," 1820. He is the first to make a positive statement based upon investigation, that race differences may be recognized in the pelvis as well as in the crania.

In 1830 M. J. Webber published his paper upon "The Original Race Forms of Skulls and Pelvises of Men." He divided pelvises into oval, round, four-sided, and globe-formed. He holds that one or other form may preponderate in this or that race, yet should not be considered as peculiar to this race; each original form may be found in every race, but more frequently in one than in the other.

J. Müller describes in detail the pelvis of a Bushwoman. ("On the External Sexual Parts of a Bushwoman," *Müller's Archiv*, 1837, p. 332.)

Kilian published Vrolik's drawings in his "Atlas of Midwifery," 1835, pl. xii.

Busch gives drawings in his "Midwifery" (1838, p. 40, pl. ii., figs. 10-15.)

Busch thinks it too early to lay down a certain normal rule in this respect, believing the number of pelvises examined to be as yet too small.

Stein opposes the existence of race-pelvises in his "Opinions upon Race Differences of Pelvises." (*Zeitschr. für Geburtskunde*, vol. xv., I. p. 41, 1844). He denies any difference between the European and non-European pelvis. Von Franque thinks he goes too far, and says that modern investigation proves its existence, at least as regards the Malay pelvis. He does not appear to have seen pelvises of other nations and races, much less examined them.

Hyrtl takes the directly opposite view. ("Topog. Anat.," 1853, vol. ii., p. 19.) He holds that in the intimate relations existing between head- and pelvis-forms the race characters expressed so distinctly in the former must be found in the latter (which,

however, has not as yet been confirmed). This explains why women, impregnated by men of another race, give birth with so much more difficulty, than if impregnated by their own race. (This statement taken from Vrolik and frequently repeated by Vrolik, finds sufficient refutation in Lehmann's observations, who saw in Amsterdam the labors of Javanese girls impregnated by Europeans, run their course easily and quickly.) In 1855 J. Struthers gave the description of a female Esquimaux pelvis. It is very roomy.

Ekir gives, in 1861, measurements of the pelvis of a native of Murray River, South Australia.

F. Zaaijer, 1862, gives measurements of Malay pelvis. Lehmann corroborated Zaaijer's results.

Joulin (1864) published two treatises upon this question. He endeavors to prove that the differences between the pelvises of the various races pointed out by Vrolik do not exist. From examinations of pelvises he accepts two principal races, Arabian or Caucasian and Mongolian, including the negroes. He states that the difference in the pelvises of the Arabians and Mongolians between the transverse and oblique diameter of the inlet is $\frac{1}{2}$ ctm. in the Arabian, and only a few mm. in the Mongolian race! He does not consider this difference sufficient to be taken as race peculiarity, and holds that the transverse diameter of the inlet is greater than the antero-posterior in all races; a statement certainly correct in general, yet exceptions have been found. (Von Franque.)

Martin (1866) published measurements of Brazilian women, taken from the living subjects, compared with like measurements of European and mixed races. He obtained in these accurate measurements essential differences in the external measurements between European women and those of other races, and these divergent external measurements correspond in several points to the measurements made of the bony pelvis of the same races.

Goertz, in his inaugural thesis, "Upon the Pelvis of a Bush-woman," 1868, says that "the pelvis of a negress from Africa (Fig. 3), in the Wurzburg collection, strikes us on account of its considerable smallness, but gives the impression of an otherwise regular female European pelvis, only too narrow everywhere; this, of course, is without reference to the peculiarities

of the negro pelvis. Its bones are not of particular fineness or delicacy."

Next to the pelvises of Malay women, the pelvises of negresses ought to be best known, since more pelvises have been described of this race, yet their number is not nearly as large as that of the known pelvises of the Malay race. Neither do the descriptions of these negro pelvises correspond in such a degree as to afford a certain conclusion in regard to the pelvises of this race in general, such as was reached in reference to the Malay pelvises. (Von Franque.)

Vrolik gives the following peculiarities for the negro pelvises: "The difference between the pelvis of the male negro, which could not be of firmer mass or have stronger bones, if taken from some wild animal, and that of the negress, which unites delicacy and lightness with roundness, is much more pronounced than in European pelvises, the vertical direction of the ilia, which in spite of delicacy of bones were deprived of the usual transparent spot, their height at the posterior superior tuberosities, the great proximity of the anterior superior spinous processes of the ilia, the lesser width of the sacrum, the smaller circumference of the hips, the shorter conjugate, the shortness of the transverse diameter, and the spinous processes and tuberosities of the ischium, the oblong form, which the pelvis thereby receives, all this recalls to memory the pelvis of the ape."

Von Franque is unable to find a resemblance between the negro and gorilla pelvis. This has also been stated by Joulin, who also denies the peculiarities claimed by Vrolik for the negro pelvis, and does so, as we shall see, with perfect justice.

Several peculiarities, indeed the majority upon which Vrolik bases the monkey-like character of the negro pelvis, do not exist at all in the monkey pelvis, at least not in the pelvises of anthropoid monkeys, the chimpanzee and gorilla, and these of course can only be regarded here. "In the monkey pelvis the anterior superior spinous processes of the ilium are far apart, the fossæ ilii are nearly completely turned anteriorly, are very transparent in a great extent, and the antero-posterior diameter is much larger than the transverse, the sacrum is very narrow. All these peculiarities are absent in the negro pelvis; the only point in which we might find an approximation of both, is the height of the crests of the ilium, whose highest point in the

gorilla corresponds to the upper edge of the last lumbar vertebra, and in the negro, to the middle of this vertebra ; a circumstance which by no means justifies us in speaking of a resemblance of both pelvis."

As regards the narrowness of the sacrum of the negress, affirmed by Vrolik, the tables of Von Franque show that it is not so very narrow ; its mean width, 107 mm., is larger than in the Malay woman, 97 mm. ; it is 2 mm. more than in the European woman, 105 ; Martin also states that the sacrum is broad.

"Comparing the negro pelvis with other races, it must be defined as much smaller in its capacity than the pelvises of other nations ; with this it has a comparatively greater depth, at least in the posterior pelvic region ; the sacrum of the negress, curved regularly anteriorly, is 101 mm. long ; that of the Malay woman, less curved in general, 91 mm. ; that of the European woman, 100 mm. With the exception of both measurements of the sacrum, its width and length, all the measurements of the negro pelvis fall below the European measurements, but here also the relation of the antero-posterior diameter of the inlet to the transverse is different, the conjugate is relatively greater, 102 : 118 ; the transverse is only 16 mm. greater ; in the European, 291 ; in the Malay, only 9 mm. Busch affirms that in some negro pelvises he has found the antero-posterior diameter absolutely greater than the transverse, without, however, giving the respective measurements."

"The negro pelvis is also smaller than the Malay pelvis, at least as regards the most important internal measurements, especially of the inlet ; the measurements of the separate bones are indeed larger in the negress ; this, however, is to be placed to the account of the greater development of the bones in general ; the pelvis is not fine and elegant, like the Malay pelvis. As regards the transparent place produced upon the ilia by want of diploë, it is by no means as constantly absent in the negro pelvis as has been stated by Vrolik and Busch ; it was absent in the three pelvises of Vrolik, and in one of Busch ; according to Martin, the ilia are mostly opaque ; Joulin, on the contrary, found in most of his pelvises the transparent spot, although it occurs less frequently and distinctly than in the European women. In the pelvises in question it is distinct."

"Do the existing statements and descriptions which we possess

of fifteen negro pelvis, justify us in drawing a conclusion in regard to the peculiarities of the negro pelvis in general, such as we were able to draw from the Malay pelvis? Do these peculiarities, if they indeed are present, justify us in establishing distinct characteristic differences between the pelvis of the negress and the European in particular? I should prefer to answer, No."

"If the description of the fifteen negro pelvis corresponded with one another in the same degree, as did the thirty-eight Malay pelvis, at least, in the grand total, we might, perhaps, be permitted to draw a conclusion, but only, perhaps, since the number fifteen is indeed too small. As this correspondence does not exist, we can, until the examination of a greater number of pelvis has been made, only say, the pelvis of the negress appears to be less capacious in general than the European pelvis. The antero-posterior diameter of the inlet is relatively greater than in the European. It is not permitted to draw further conclusions."

Gorilla Pelvis.—Conclusions reached by Von Franque, l. c. p. 203.—Although in a comparison of the gorilla pelvis with that of the human female, a resemblance in general must be found, a resemblance of the certain form of the pelvis, yet, in a comparison of the component parts, especially of the true pelvis the difference is so striking that we are forced to the conclusion that between the pelvis of the anthropoid monkeys, chimpanzee and gorilla, and the pelvis of the human female, there is yet a wide gap, and least of all are we able, at least according to the specimen before us, to find an approach of the pelvis of the negress to that of the anthropoid monkeys, as was asserted by Vrolik; we might sooner, perhaps, find a correspondence in several points between the monkey and the Malay pelvis. Granting that several points of the negro as well as Malay pelvis have a very distinct resemblance to the respective points of the monkey pelvis, there still remains, according to the hitherto made examinations, this difference between human and animal pelvis, that in the latter, especially in those of the anthropoid monkeys, the antero-posterior diameter of the inlet is considerably longer than the transverse, which is found in the human pelvis so rarely, so exceptionally, and also in a much less degree, that we can justly, with Joulin, lay

down the following dogma : *In all races of men the transverse diameter exceeds the antero-posterior in length.* The difference between the two seems indeed to vary in different races, so that in the lower, uncivilized nations the antero-posterior diameter increases in length as compared with the transverse, without, however, exceeding the latter, and in so far we may indeed speak of an approach, but only of a very distant one, to the pelvis of the anthropoid monkey, without, however, as yet at least, being able to demonstrate a gradual transition from one to the other ; this question must as yet remain open, to be decided by more extended investigations.

In Von Franque's paper the three following conclusions are given, viz. :—

1. The number of known carefully examined and measured pelvises of various races is as yet too small to enable us to draw conclusions in regard to the pelvises of these races, with the exception of the Malay race ; the pelvises of the latter were described so correspondingly by all in their principal points, that we may justly draw a conclusion in regard to the character of the pelvises of this race. As regards the pelvises of negroes, of which race next to the Malay, the majority of pelvises are known, such a conclusion is, for reasons already stated, inadmissible.

2. The size of pelvises, according to investigations, seems to increase from south to north, but in southern nations the conjugate seems to increase in proportion to the transverse diameter.

3. A transition from the pelvises of anthropoid apes to that of the human female, much less a similarity between the two, can as yet not be demonstrated ; the above differences show the wide gap between both. If, for other reasons, the statement may be justified, that the distance between anthropoid apes and men of the lowest order is smaller than between the latter and the European, yet this statement is not justified in reference to the character of the pelvises.

We are able as yet to state very little positively in regard to the course of labor in different races. Referring to our want of knowledge in regard to the pelvises of different races, and to the course of labor itself, Von Franque says that "we may accept,

in all probability, that differences in the course of labor exist, considering the different characters of pelvises, especially of the inlet; especially must we accept that, as well in the entirely round pelvises as also in those whose conjugate has increased in length in comparison to the transverse diameter, as seems to be the case in most of the Southern races, the mode of passage of the head through the pelvis is different from that in the European pelvis. That this is the case we may conclude from the fact, that in the different forms of pelvises seen in Europe, a different entrance and passage of the head can be observed. It is indeed true, that in the formation of our judgment of the course of labor in the various races, even if we were better acquainted with the pelvis than we are, an important point is absent, *i.e.*, the proportions of the object of birth, especially of the foetal head. I could nowhere find measurements of neonati; only two physicians mention the foetal head when speaking of the labor."

I. von der Steige writes, March 10, 1802, in sending a pelvis of a Java woman to Dr. Deimann (who sent the pelvis to Vrolik): "You will doubtless be surprised by the smallness of the conjugate of the small pelvis, and by its small depth; yet they bear children easily because their children have a small occiput, and because also their ligaments are very elastic. No woman has ever needed any assistance except such as were impregnated by Europeans," etc.

* * * * *

We possess, therefore, upon the course of labor in uncivilized nations only very general observations, from which, however, it is certain that labors in these uncivilized nations run their course more easily and quickly than in European women, and that difficult labors in them are more frequently due to anomalies in position of the child, than to mal-proportion between the size of the child and the pelvis, to narrow pelvises; the latter, however, are said to occur (Rollin).

Von Franque reports as follows what he has been able to find in literature in regard to this question:

2d Moses,¹ ch. i. vs. 15-21. "The Israelitic women are not like the Egyptians, they are robust, and have given birth to children before the midwife can reach them."

¹ Exodus.

Barlaeus (1660) speaks of the easy labors of Brazilian women.

Elianus says the same thing of the ancient Egyptian and Phoenician women.

Siculus speaks of the easy labors of the inhabitants of ancient Liguria.

Strabo of those of Spain. Ludolf praises the easy labors of Abyssinians.

Kolben says of the Hottentot women: "When the labor becomes hard the midwife administers a cold decoction of tobacco and milk, which produces its effect at once."

Garcilano de la Vega speaks of the easy labors of Peruvian women.

Charleroi writes of the easy accouchement of North American Indians, as does Rollin.

Barrere, Bouguer and de la Condamine say the same thing of South American Indians. Also Bancroft and Langsdorf state that the inhabitants of the Isle of Hakahiwahave easy labors.

Morier says the same thing of the Persians. The women of Kamtschatka are said to have easy labors, also the Esquimaux. Dr. Henschel, of New York, writes to Prof. d'Outrepont, of Würzburg: "I have attended 43 labors in colored females (mulattoes and quadroons included). The first two stages ran much more slowly than *ceteris paribus* in the white women, but as soon as the head enters the outlet it proceeds more rapidly.

"Of these 43, 2 were face presentations, 2 right-hand, once the left, and once both hands alongside of the head.

"This proportion is indeed rather considerable, yet not perhaps sufficient to base a theory upon, and may be accidental.

"These experiences coincide with those of several colleagues, whom I questioned in regard to it."

D'Outrepont adds: "These expressions were called forth by a question by me, whether differences of the pelves of various races had no influence upon the position of the foetus, especially whether the latter had not a greater resemblance to the position of the foetus in animals, *i.e.*, whether the hand did not present much more frequently, whether facial presentations were not much more frequent than in the Caucasian race."

I believe that this latter should be mentioned here, because

the observations are the only ones which have been communicated upon position and presentation of children at birth in non-European races. Unfortunately, on account of want of accurate observation, it must as yet remain undecided, whether, indeed, facial births are more frequent in the blacks to such a degree, than in our women, in whom, as well known, facial births are much more rare, or whether Henschel's figures are merely accidental (Von Franque).

In the 2000 cases analyzed by me in this paper, no case of face presentation occurred so far as I was able to learn. Certainly no case in the 500 labors attended by myself, and the records of the Freedmen's Hospital of this city show no cases. I think, therefore, that the above record of cases by Dr. Henschel must have been accidental.

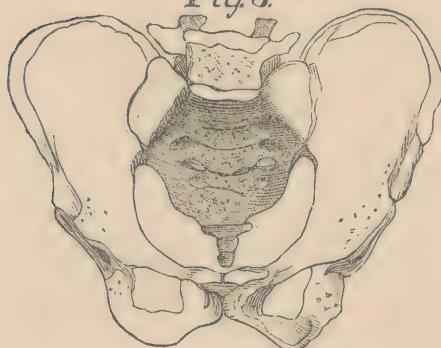
Dr. Henschel, at the same time, sent to Prof. d'Outrepont the pelvis shown in Fig. 4, and gives its history as follows: "I send you herewith the pelvis of a negress, which is old, to be sure, but authentic; I will not assert, however, that it is from a pure negress, more likely from a mulatto or quadroon." Von Franque says that the size of the pelvis, the circular character of the superior strait, and the general rounded outline of the whole pelvic canal, as well as various other minor peculiarities, indicate that it is not a pelvis of pure race, but probably of mixed breed.

Fig. 3 represents the pelvis of an African negress, Fig. 5 a normal white female pelvis, and Figs. 6, 7, and 8 show the outlines of the superior straits of the negro, mulatto, and white female pelvis, clearly proving their dissimilarity.

"Finally, we must give the observations of Martin. He also, according to his own experience, as well as to information derived from colleagues, must leave it undecided whether the mechanism of birth in other races is different from that in our women; whether the foetal head in the comparatively longer conjugata of the inlet places itself at the very beginning more into this diameter. According to Martin's observations, the blacks in Brazil are said not to bear children with much greater ease or more difficulty than our women.

Dr. E. Charles, Professor of Midwifery, of Calcutta, also told him, that he had not noticed any essential difference in the course and mechanism of labor of the native women in and around

Fig. 3.



Pelvis of African Negress—quarter natural size.
(Reduced in size from Von Franque.)

Calcutta. The labors have, at most, been a little more rapid, and are rarely ever complicated by narrowness of pelvis, in consequence of rachitis or osteomalacia. The same statement was obtained by Martin from a black midwife of Senegambia, according to whom the labors there ran their course the same

Fig. 5.

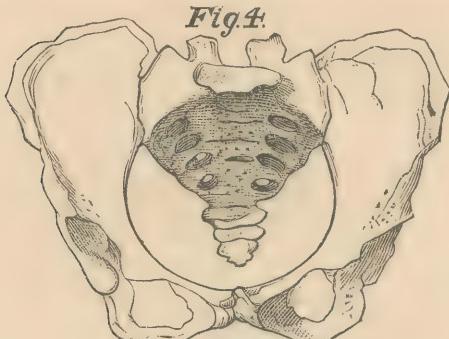


White Female Pelvis—quarter natural size. (Leishman.)

as in Dublin; easy and difficult labors were in the same proportion in Senegambia as in Europe.

To these last mentioned statements, statistic proof by exact figures is wanting, without which they have only a subordinate value. (Von Franque.)

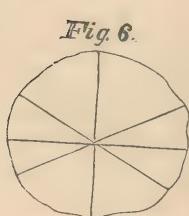
It is hoped that the statistics submitted in this paper may be of some value, so far at least as the negro women of the United States are concerned.



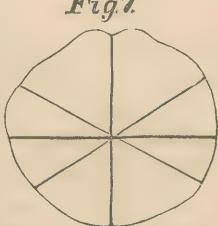
Pelvis of American Negress (Mulatto ?)—quarter natural size.
 (Reduced in size from Von Franque.)

Von Franque, whose statements in regard to the female negro pelvis I have already so largely quoted, closes his admirable article as follows:

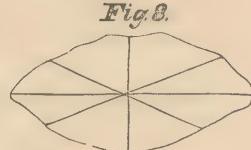
"Comparing now these different observations upon the course of labor in different uncivilized nations, as we have quoted



African Negress.



Outline of superior strait of pelvis of
American Negress (Mulatto?).



White Female.

them from ancient and modern literature, this much is evident, no matter how generally they may be held, that the labors, as already pointed out above, run their course more easily and rapidly with them than with our women, the influence exerted upon this more rapid course by the form and shape of the pelvis can certainly not be set aside. We must, however, not forget, in this question, the *influence of culture*, which certainly cannot be estimated too highly, so that with increase of culture and super-refinement of customs, not only the most various diseases appear more numerously, but that also, in the same

measure, the labors become more difficult and of longer duration; that especially complications step in, which are conditioned by anomalies of the bony pelvis, and which are, in general, met with but rarely, almost not at all, in uncivilized races."

That there are race peculiarities belonging to the negro female pelvis, I think, is no longer to be doubted.

The conclusions of such a cautious writer as Von Franque settle, beyond doubt, that the antero-posterior diameter of the inlet of the female pelvis in the negro is longer than in the European female.

The relation which exists between the skulls of a race and the female pelvis of the same race is referred to by Wood, in his article upon the pelvis, in *Todd's Cyclopaedia of Anatomy and Physiology*, in the supplement to Vol. V., p. 146. He says: "The relative development of the pelvis seems to extend not only to sex, but to the varieties of mankind, either as an irrespective consequence of primitive formative type or in regard to the adaptability of the foetal head to the process of parturition. In either case this adaptation is strikingly illustrated by the different pelvic forms prevailing in different races of men, which will be found, when considering that branch of our subject, to be markedly assimilated to the form of the skull."

Again, upon page 148, after referring to the effect of the different varieties of the pelvis upon the form of the body, in the different races of mankind, he speaks of the writings of Camper, and after him, of Soemmering, and refers to their declaration, that the negro had more slender loins and hips than the European, consequent upon narrower pelvises. He quotes a comparative measurement of the diameter of the brim of a pelvis in a negro and a European, of adult size, from Soemmering, which Von Franque does not give.

In the negro he "found that the long or transverse diameter was 3 inches and $11\frac{1}{2}$ lines. In the European, 4 inches and 6 lines. In the negro the short or conjugate diameter was 3 inches $7\frac{1}{2}$ lines, and in the European 3 inches and 11 lines.

From Camper's measurements, the long diameter was to the short one as 39 to $27\frac{1}{2}$ in the adult negro, and as 41 to 27 in the adult European, who, nevertheless, was of much less stature

than the negro. The measurements given on page 151 were taken in the dissecting-room of King's College, from an adult negro, six feet in height. From the measurements of this pelvis, the antero-posterior diameter seem to prevail in the negro, and the whole pelvis to be smaller than the European. This is seen remarkably in the limited breadth of the sacrum, 3 inches and 9 lines, and in the approximation of the ischial spines, 3 inches, both much lower than the average European; the latter less, indeed, than in the chimpanzee. In fact, I have never met with a European sacrum so narrow as in the negro above-mentioned, especially in an individual so tall as six feet."

Wood says that "it is supposed that in negro women, generally, *from the easy labors which they undergo*, there is much more proportionate pelvic capacity. The dimensions of the pelvis of a negress, of small stature, contained in Bonn's museum, at Amsterdam, are given by Dr. Hull, in his second letter to Simmonds, as follows: at the brim the conjugate diameter was $4\frac{3}{8}$ inches, the transverse $4\frac{1}{8}$, the oblique also $4\frac{1}{8}$. From inner extremity of the superior pubic ramus to the sacro iliac joint of the same side, $4\frac{1}{2}$ inches; at the outlet the antero-posterior diameter (measured from the apex of the sacrum) was $4\frac{1}{2}$ inches, the transverse $3\frac{1}{2}$ inches; the breadth of the sacrum was $3\frac{1}{2}$ inches, and the length the same. The angle of the sub-pubic arch measured only $67\frac{1}{2}^{\circ}$. In this pelvis also, although a female, the prevailing size of the antero-posterior diameter, and the limited breadth of the same, and transverse diameter of the outlet, as well as the exceedingly small expanse of the sub-pubic arch, are very remarkable, and are hardly accordant with easy labors unless from the special adaptation of the foetal head."

Wood refers to the writings of Vorlik, and copies his remarks in regard to what he considers marks of degradation of the negro female pelvis, viz.: "The vertical direction of the ilia, their elevation at the posterior superior spinus, and the approximation of the anterior iliac spines to the cotyloid cavity, together with the narrow transverse and, antero-posterior diameters, the anterior sacral projection, the general elongation of the pelvis, and the greater acuteness of the sub-pubic angle."

Wood gives Professor Webber's four conclusions, the same

as Von Franque, and expresses about the same views in regard to them. He goes so far as to say, that "all differences in the human pelvis, in the various nations and races of mankind, although they may vary greatly from their special national peculiarities, yet they present characteristics which belong to other varieties of the *human species*."

"The coincidence between the prevailing form of the skull and that of the pelvic brim in these classes of the human race is worthy of special remark and influences materially, as before mentioned, the adaptation of the foetal skull to the pelvic passage during labor. After the form of the skull that of the pelvis is, perhaps, the most characteristic of race of any in the body, because of its great influence upon the shape of the trunk; and yet, from Webber's researches, it would appear that it is not sufficiently so to constitute a greater distinction than that of variety, and is not exclusive enough in its peculiarities to establish separate generic classifications of the human species."

I have made great efforts to secure some negro female pelvis for the purpose of taking measurements, but am able to find only two specimens, and they are of negro girls, about twenty years of age, who died of phthisis. Their bones are surprisingly small, and poorly nourished. Dr. Otis, of the Army Medical Museum, very kindly gave me permission to make measurements of all the negro pelvis under his charge; but in tracing the histories of their owners during life, the only ones which were *surely* female negroes were the two above referred to, and they are of but little value for this article.

I give below, however, by the kind permission of Dr. Otis, measurements of the pelvis of one of these negro girls, aged 20, whose entire skeleton is mounted in the Army Medical Museum.

These figures are contrasted with similar measurements given by Leishman in his "System of Midwifery," page 45, of the average female pelvis.

Measurements of pelvis of negro girl, 4 ft. 9 in. tall, age 20, mounted in the Army Medical Museum at Washington, D. C.

1. Circumference of the brim.....	13 $\frac{1}{8}$	inches.
2. Between widest part of iliac crests external meas. 8, internal ..	7 $\frac{1}{2}$	"
3. " anterior superior spinus of ilium.....	6 $\frac{1}{4}$	"
4. " front of symphysis and sacral spinus.....	5 $\frac{1}{2}$	"

	Conjugate.	Transverse.	Oblique.
5. True pelvis.			
Brim.....	3 $\frac{3}{4}$	3 $\frac{3}{4}$	4 $\frac{1}{8}$
Cavity.....	4 $\frac{1}{4}$	3 $\frac{7}{8}$	4 $\frac{3}{8}$
¹ Outlet.....	2.....	3 $\frac{1}{8}$	
6. Breadth of sacrum.....			3 $\frac{1}{2}$
7. Length of sacrum.....			4 $\frac{1}{6}$

Measurements of average adult female pelvis (Leishman), undoubtedly European:

1. Circumference of brim	17 inches
2. Between widest parts of iliac crests.....	10 $\frac{1}{2}$ "
3. " anterior superior spinus of ilium	10 $\frac{1}{2}$ "
4. " front of symphysis and sacral spinus.....	7 "
5. True pelvis.	Conjugate. Transverse. Oblique.
Brim.....	4 $\frac{1}{4}$ 5 $\frac{1}{4}$ 5
Cavity.....	5 $\frac{1}{4}$ 5..... [5 $\frac{1}{4}$] ²
Outlet.....	5 ³ 4 $\frac{1}{4}$ [4 $\frac{1}{4}$]

The number of negro pelvis which have already been measured and described, does not seem to be greater than fifteen, and as Von Franque and others remark, it is hardly permitted us to draw positive conclusions in regard to the pelvises of a race from the examination of so small a number. Yet it has been demonstrated, so far as these fifteen pelvises can show us anything, that the negro pelvis is, or appears to be, less capacious than the European, and that the antero-posterior diameter of the inlet is relatively greater. These few measurements seem to have been the authority upon which writers upon ethnology and anthropology, and even upon obstetrics, have based their statements, that in the negro pelvis there is a degradation of type so great, some have declared, as to place them in a grade lower than the chimpanzee. All writers I have examined on this subject quote the statements of Camper, Soemmering, Vrolik, and Webber, and as we have their measurements, and the number of pelvises described, we can attach as much importance to their conclusions as their number and scope demands.

Leishman, hardly two years ago, states in the introductory

¹ I am indebted to Dr. J. E. Cheney, of Dr. Otis' office, for his aid in taking these measurements.

² The oblique diameters of the cavity and outlet are placed in brackets, as not being taken from fixed bony points they are of comparatively little importance.

³ 6 when coccyx forced back.

chapter to his work upon midwifery, p. 30, which is pronounced by our medical journals to be the finest text-book upon this subject in the English language—"that an examination of negro, bushmen, and other pelvis, shows in many instances a remarkable degradation of type, such as a vertical direction of the ilia and their elevation at the posterior superior spinus, narrowness of the sacrum, and acuteness of the sub-pubic angle." He also says immediately, after speaking of the peculiarities of the negro pelvis: "An occasional peculiarity of some of the lower races, and one which appears even more to approach to the ape type, is the preponderance of the conjugate over the transverse diameter of the brim." Many other authors refer to the negro female pelvis as possessing peculiar race characteristics, as being oblong, deeper, more narrow, and with longer conjugate diameter than the European female pelvis.

The discussion on the anatomy of the negro cranium and of its comparative diameters and capacity, opens up too large a subject for consideration in this article, already much longer than I had originally intended; and I shall content myself with the statement of what must be apparent to any observer, viz.: that the negro head has, as a rule, a more receding forehead, a greater development of the occipital region, and of the lower part of the face than the European. There are so many exceptions to this rule among *educated* negroes, that I have little doubt but that education, culture and refinement, continued through successive generations may produce a change in their peculiar type of cranium; in fact, there may be, as generations increase in intelligence, such a development of the anterior lobes of the brain, as to overbalance its present race distinctions, which are possibly distinctions of uncultured intellect as well as of race, and these alterations in culture may in time bring about changes of type in the cranium itself.

The present differences of type in the negro and European crania will be admitted probably without discussion.

In conclusion, I refer to Leishman, his being the latest standard obstetrical text-book. He says, page 30, referring to parturition in different races, "We have just seen that the form of the pelvis corresponds to the shape of the head."

If this be so, what is the form of pelvis which would most naturally suggest itself to our minds as "corresponding in

shape" to the average negro head? Apparently such a pelvis as has been described by Vrolik, Soemmering and others—a pelvis, deeper, more narrow, and with longer conjugate diameter at the brim, than exists in the average European female pelvis.

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